



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/057,525	01/24/2002	Robert Marc Clement	7500.376US01	2322

23552 7590 09/08/2005

MERCHANT & GOULD PC  
P.O. BOX 2903  
MINNEAPOLIS, MN 55402-0903

EXAMINER
----------

PIAZZA CORCORAN, GLADYS JOSEFINA

ART UNIT	PAPER NUMBER
----------	--------------

1733

DATE MAILED: 09/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/057,525

Applicant(s)

CLEMENT ET AL.

Examiner

Gladys JP Corcoran

Art Unit

1733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 June 2005.  
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.  
4a) Of the above claim(s) 16-23 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-15 and 24 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Claims 16-23 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected Group II, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on April 16, 2004.

### ***Claim Objections***

2. Claim 2 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The independent claim already requires that the adhesive bonding material is a moisture cure adhesive bonding material.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:  

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
5. Claim 7 recites the limitation "the period of heating in the dispensing device stage." in lines 2-3. There is insufficient antecedent basis for this limitation in the claim. It is noted that Applicant has amended independent claim 1 by deleting "period of" and

Art Unit: 1733

now recites "a heating stage". It is suggested to amend to --the heating stage in the dispensing device.--.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1-7, 14, 15, 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tschan et al. (US Patent No. 4,778,845) in view of Kunert (US Patent No. 4,910,071), and/or Swanson et al. (US Patent No. 6,054,001) and/or Turner, Jr. et al. (US Patent No. 4,682,710) as further taken with Baker et al. (US Patent No. 4,245,759).

Tschan discloses a method of securing a panel with a moisture cure polyurethane adhesive bonding material (column 2, lines 60-64; column 3, lines 14-16;

Art Unit: 1733

column 3, lines 50-55; column 4, lines 7-11, 21-23, 27; column 5, lines 1-3, 20), by subjecting the bonding material to a predetermined temperature regime having a heating stage during which the adhesive bonding material is heated at a predetermined level prior to dispensing from the dispensing outlet of the device (column 4, lines 12-20) and a subsequent period of curing in-situ in contact with the glazing panel at a temperature significantly below the predetermined heating temperature level (column 3, lines 5-15) and curing of the moisture cure polyurethane adhesive material occurring following the heating stage and dispensing (Tschan discloses that the heating in the dispensing device causes only partial curing and then the full cure occurs afterwards through moisture; column 3, lines 5-15; column 4, lines 33-37; column 5, lines 1-3, 15-20).

As to the limitation that the temperature of the adhesive bonding material dispensed via the dispensing outlet is maintained substantially uniform as adhesive is dispensed about the periphery of the panel, Tschan discloses the adhesive material is dispensed in a hot state and one of ordinary skill in the art the time of the invention would readily recognize that the adhesive is applied at a substantially uniform temperature. Additionally, it is considered conventional to apply the adhesive material around a periphery of the panel when mounting and or bonding windows to automobile vehicles particularly in view of the references Turner and Baker as discussed below.

As to the limitations of using a hand-held operator manipulative dispensing device to dispense the adhesive bonding material via a nozzle of the dispensing device to dispense the adhesive bonding material, while Tschan does not particularly disclose

Art Unit: 1733

the dispensing means (only referring to heated hoses), it is considered conventional to apply the adhesive bonding material along peripheries of glazing panels for mounting onto automobiles by using hand-held operator manipulative devices with nozzles. For example, Kunert discloses it is known in the art to provide polyurethane adhesive masses about the periphery of window panels with an extrusion nozzle by hand (column 3, lines 19-24). Swanson discloses another example where it is known in the art to apply moisture cured urethane adhesives around the periphery of window panels by hand (column 1, lines 27-30). Furthermore, Turner also discloses one example in the art where it is known to provide a dispensing means for applying adhesive around the periphery of parts in automotive assembly lines where heated hoses are connected to hand operated extrusion guns (nozzles) (column 1, lines 5-32; column 2, lines 65-66; column 3, line 53 to column 4, line 8). It would have been obvious to one of ordinary skill in the art at the time of the invention to apply the adhesive material in Tschan with a hand-held operator manipulative device with a nozzle as is considered well known in the art in order to apply the adhesive material around the periphery of the glazing panels in the automotive art and as further exemplified by Kunert, Swanson, and/or Turner.

As to the limitations that the dispensing device includes an on-board heater positioned and configured for heating the adhesive bonding material present in the nozzle of the dispensing device and where the heating stage is in the nozzle, it is considered well known in the dispensing arts to provide hand held dispensing nozzles for dispensing heated adhesives with heaters in the dispensing devices for heating the adhesive in the nozzles. It is noted, that while Turner discloses the dispensing device is

Art Unit: 1733

used for dispensing a heated adhesive, Turner does not specifically disclose the particulars of the extrusion gun other than citing that guns such as the one disclosed in US Patent No. 4,245,759 (Baker) may be used. Baker discloses an example of known extrusion guns in the art for applying heated adhesives where the extrusion gun (including a nozzle) includes an on-board heater positioned and configured for heating the adhesive bonding material present in the nozzle (column 1, lines 35-45, 56-66; column 2, lines 5-12; column 3, lines 57-65). It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the method of securing a panel as shown by Tschan by supplying the adhesive from a well known and conventional dispensing device in the art that is hand-help operator manipulatable as exemplified by Kunert, Swanson, and/or Turner and where the dispensing device includes an on-board heater positioned and configured for heating the adhesive material in the nozzle of the device as exemplified by Baker.

As to claim 2, the adhesive bonding material is a moisture cure adhesive bonding material (column 3, lines 13-16; column 4, lines 10-11). As to claims 3 and 4, the predetermined level to which the adhesive bonding material is heated prior to dispensing is at or above 50°C and in the range of 70°C  $\pm$  20°C (column 3, lines 9-10, and 61-63). As to claim 5, as discussed above, it would have been well within the skill of one of ordinary skill in the art at the time of the invention to apply the adhesive a uniform temperature within 5 degrees of the desired temperature during the dispensing of the adhesive, only the expected results would be attained. As to claim 6, while Tschan does not specifically disclose at what temperature the adhesive is dispensed,

Art Unit: 1733

Tschan does disclose that the adhesive is heated to a temperature within the range of  $70^{\circ}\text{C} \pm 20^{\circ}\text{C}$  (column 3, lines 9-10) and that the adhesive is applied hot (column 4, lines 12-20). It would have been obvious to one of ordinary skill in the art at the time of the invention to dispense the adhesive in Tschan at a temperature within the range of  $70^{\circ}\text{C} \pm 20^{\circ}\text{C}$  since that is the same range of temperatures the adhesive is heated to and the adhesive is applied directly after heating, therefore one of ordinary skill in the art would readily appreciate that the dispensing temperature would be substantially similar to the temperature at which it was heated to prior to dispensing. As to claim 7, Tschan discloses that a minor degree of curing (partial curing) occurs during the heating stage in the applicator (the heatable tube is considered part of the applicator; column 3, lines 9-11; column 4, lines 17-19). As to claim 14, after the heating and dispensing of the adhesive in Tschan, the adhesive is permitted to fully cure in situ with moisture (column 4, lines 10-11). While Tschan does not specifically disclose that the moisture cure is in ambient conditions, it is considered well known in the art to moisture-cure sealants on panels in ambient conditions. Additionally, there is no suggestion that the panel is exposed to any conditions other than ambient. As to claim 15, Tschan discloses carrying out the heating stage prior to dispensing, therefore the heating stage is considered to be carried out prior to positioning the panel and adhesive bonding material for securing (it is noted it is also considered conventional to apply the adhesive to the panel while lying flat and then move the panel onto the automobile frame for mounting). As to claim 24, the limitations are met by the references as discussed above for claim 1 and further the full curing of the adhesive applied in Tschan occurs at a



temperature significantly below the heating temperature and under ambient conditions, (column 4, lines 10-11). While Tschan does not specifically disclose that the moisture cure is in ambient conditions, there is no disclosure of further heating once dispensed in the examples nor any suggestion that the panel and adhesive is exposed to any conditions other than ambient and further it is considered well known in the art to moisture-cure sealants on panels in ambient conditions.

9. Claims 8-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tschan et al. in view of the Kunert, and/or Swanson et al. and/or Turner as further taken with Baker as applied to claim 1 above, and further in view of Landrock (Adhesives Technology Handbook).

Tschan discloses that the adhesive is heated by passing through a heatable hose, however does not specifically disclose the type or method of heating the adhesive. Baker discloses that the heater in the dispensing device is an electrical resistance heater. It is considered well known in the adhesive arts to heat adhesives by a variety of methods including bulk techniques that utilize electromagnetic radiation, dielectric radiation, microwave radiation, radio frequency radiation, or ultrasonic radiation as equivalent alternatives in the art to electrical resistance heating. For example, Landrock discloses examples of methods for providing heat to adhesives for curing including, radiation curing, dielectric (radio frequency heating), or ultrasonic activation (p. 214-219). It is further considered conventional in the art to provide heated nozzles with a variety of heater sources including those as claimed. Substituting one type of heating in a dispensing nozzle for another is considered well known in the art

Art Unit: 1733

and such are considered known equivalents in the art. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the method of securing a panel as shown by Tschan in view of the Kunert, Swanson and/or Turner as further taken with Baker by heating the adhesive with a well known and conventional method such as bulk techniques that utilize electromagnetic radiation, dielectric radiation, microwave radiation, radio frequency radiation, or ultrasonic radiation as further exemplified by Landrock.

10. Claims 8, 10, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tschan et al. in view of the Kunert, and/or Swanson et al. and/or Turner as further taken with Baker as applied to claim 1 above, and further in view of Hill et al. (US Patent No. 5,948,194) and/or Duck et al. (US Patent No. 5,064,494).

Tschan discloses that the adhesive is heated by passing through a heatable hose, however does not specifically disclose the type or method of heating the adhesive. Baker discloses that the heater in the dispensing device is an electrical resistance heater. It is considered well known in the adhesive arts to heat adhesives by a variety of methods including bulk techniques that utilize electromagnetic radiation such as microwave radiation as equivalent alternatives in the art to electrical resistance heating. For example, Hill discloses a method of pre-heating an adhesive prior to application to a panel where the adhesive is pre-heated with a microwave pre-heater (column 4, lines 48-55). Duck also discloses an example of heating an adhesive prior to applying to a panel where the adhesive is heated as it moves through a tube with microwave energy (column 7, lines 11-26). It is further considered conventional in the

Art Unit: 1733

art to provide heated nozzles with a variety of heater sources including those as claimed. Substituting one type of heating in a dispensing nozzle for another is considered well known in the art and such are considered known equivalents in the art. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the method of securing a panel as shown by Tschan in view of Kunert, Swanson, and/or Turner as further taken with Baker by heating the adhesive with a well known and conventional method such as bulk techniques that utilize electromagnetic radiation such as microwave radiation as further exemplified by Hill and/or Duck.

### ***Response to Arguments***

11. Applicant's arguments filed June 29, 2005 have been fully considered but they are not persuasive.

Applicant argues on pages 8 and 9 that Tschan teaches heat cured polyurethane which once heated bonds immediately. Applicant has mischaracterized the reference Tschan. While Tschan does disclose one embodiment where the adhesive can be further heated for complete curing, Tschan clearly discloses partial curing of a polyurethane adhesive bonding material at a first heated temperature, dispensing and then later complete curing occurs through moisture cure.

Applicant argues on page 9 that none of the references show an on-board heater. The newly presented limitation of providing a heater on the dispensing device to heat the adhesive in the nozzle is met by the reference Baker as discussed above.


Art Unit: 1733

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gladys JP Corcoran whose telephone number is (571) 272-1214. The examiner can normally be reached on M-F 8am-5:30pm (alternate Fridays off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (571) 272-1171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Gladys JP Corcoran  
Primary Examiner  
Art Unit 1733

GJPC